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10/816,966	04/02/2004	Yoshitsugu Morita	501558.20015	1690

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EXAMINER	
FIDLER, SHELBY LEE	
ART UNIT	PAPER NUMBER
2861	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/816,966	MORITA, YOSHITSUGU	
	Examiner	Art Unit	
	SHELBY FIDLER	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) *25-28* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-9 and 12-24* is/are rejected.

7)☐ Claim(s) *3,10 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/30/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Art Unit: 2861

DETAILED ACTION

Response to Amendment

This Office Action is responsive to remarks filed 1/17/2008. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. Examiner notes that, although the references are the same as those in previous Office Actions, the construction of the obvious combination has changed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, 13, 14, and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata (US 6874878 B2) in view of Perez et al. (US 6074050).

Regarding claim 1:

Sugata discloses an ink cartridge comprising:

an inner bag (pack 352) that is formed of a first flexible sheet (col. 5, lines 35-37);

an outer bag (pack 351) that is formed of a second flexible sheet (col. 5, lines 49-52) and encloses the inner bag such that a first space is defined by and between the inner bag and the outer bag (Fig. 7);

an ink delivering member (pipes 351a & 352a);

a rigid casing (case 358) that encloses the outer bag and the inner bag such that a second space is defined by and between the outer bag and the rigid casing (Fig. 7), and wherein the rigid casing holds the ink delivering member (Fig. 7); and

wherein the ink delivering member further includes an ink outlet passage (pipe 351a) through which ink is delivered to an exterior of the ink cartridge (col. 8, lines 27-31) and a communication passage (pipe 352a) through which the first space is held in communication with the exterior of the ink cartridge (col. 8, lines 27-31 & Fig. 7).

Sugata does not expressly disclose that the first bag accommodates ink, or that the ink delivering member includes a fixing portion to which the outer bag is fixed at an opening thereof, and an extending portion that is formed adjacent to the fixing portion so as to extend toward and inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof.

However, Sugata does disclose that the construction of the ink cartridge may be arbitrarily changed as long as an ink pack is arranged adjacent to an air injection pack such that the volume of the ink pack decreases when the volume of the air injection pack increases (col. 8, lines 50-56); and

Perez et al. disclose an ink delivering member (chassis 58) that includes a fixing portion (unreferenced horizontal extensions of chassis 58 shown in Fig. 3A – e.g. those extensions forming vessel sealing surface 66) and an extending portion (bag sealing surface 64) which is formed adjacent to the fixing portion so as to extend toward an inside of a pressure vessel (62) in a first direction of the fixing portion (Fig. 4A) and to which an ink accommodating bag (collapsible film bag 60) is fixed at an opening thereof (col. 4, lines 13-15 & Fig. 3A).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to interchange the functions of the inner and outer bags such that the inner bag acts as an ink accommodating bag in the invention of Sugata. Motivation for doing so, as suggested by Sugata, is to provide an ink cartridge in which the ink pack is arranged adjacent to the air injection pack such that the cost of manufacturing the ink cartridge is lowered (col. 1, lines 41-65). It would have been further obvious to utilize an ink delivering member with a fixing portion to which the outer bag is fixed and an extending portion, such as suggested by Perez et al., into the invention of Sugata. One motivation for utilizing such an ink delivering member, as taught by Perez et al., is to provide fluid communication between the fluid outlet and the collapsible film bag (col. 4, lines 4-6).

Regarding claim 4:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Perez et al. also disclose** that the fixing portion (66) has a cross sectional area larger than a cross sectional area of the extending portion (64), where the cross sectional areas of the fixing portion and the extending portion are taken along respective planes perpendicular to the first direction of the fixing portion (Fig. 4A).

Regarding claim 5:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Perez et al. also disclose** that the fixing portion (66) has a circular shape in cross section taken along a plane perpendicular to the first direction of the fixing portion (Fig. 4A).

Regarding claim 6:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Sugata also discloses** that the outer bag (351) includes a pair of walls which are opposed to each other in a

second direction perpendicular to the first direction of the fixing portion (col. 5, lines 45-48 and Figs. 3 & 7).

Regarding claim 13:

Sugata as modified by Perez et al. disclose all limitations of claim 6, and **Sugata also discloses** that the communication passage (352a) is formed on one of opposite sides of a plane (the plane of hatched region in Fig. 3 – col. 5, lines 49-56) of the fixing portion, the plane including a connected surface at which the pair of walls of the outer bag is connected (Figs. 3 & 7).

Regarding claim 14:

Sugata as modified by Perez et al. disclose all limitations of claim 6, and **Sugata also discloses** that the communication passage (352a) is formed on both of opposite sides of a plane (the plane of hatched region in Fig. 3 - col. 5, lines 49-56) of the fixing portion so as to extend in series, the plane including a connected surface at which the pair of walls of the outer bag is connected (Figs. 3 & 7).

Regarding claim 16:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Sugata also discloses** that each of the first and second flexible sheets is provided by a material which substantially inhibits gases or vapors from permeating therethrough (col. 5, lines 35-37, 49-52).

Regarding claim 17:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Sugata also discloses** that the first and second flexible sheets are made of vinyl (col. 5, lines 35-37, 49-52); and **Perez et al. also disclose** that the ink delivering member is more rigid than the ink bag (col. 4, lines 16-27 shows an O-ring placed between the pressure vessel and chassis, which requires

these elements to be highly rigid materials so that the O-ring obtains a proper seal). Therefore, the combination as a whole discloses an ink delivering member that is more rigid than the first and second flexible sheets.

Regarding claim 18:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Sugata also discloses** that the ink delivering member further includes a hollow protruding portion (pipe 351a) that protrudes so as to extend in a direction away from the outer bag (Fig. 7) and that has an inner passage formed therethrough (col. 8, lines 25-27), the communication passage communicating at one of opposite ends thereof with the first space defined by an between the inner bag and outer bag, and at the other of the opposite ends with the inner passage of the hollow protruding portion (col. 8, lines 25-27 & Fig. 7).

Regarding claim 19:

Sugata as modified by Perez et al. disclose all limitations of claim 18, and **Perez et al. also disclose** that the fixing portion (66) has a connecting passage that connects the other of the opposite ends of the communication passage (the section of gas inlet 26 corresponding to vessel sealing surface 66) and one of opposite ends of the inner passage of the hollow protruding portion which is located on the side nearer to the fixing portion (Fig. 3A).

Regarding claim 20:

Sugata as modified by Perez et al. disclose all limitations of claim 19, and **Perez et al. also disclose** that the connecting passage includes a first portion which extends in the first direction of the fixing portion, and a second portion which extends from the first portion in a direction intersecting the first direction (Fig. 3A).

Regarding claim 21:

Sugata as modified by Perez et al. disclose all limitations of claim 18, and **Perez et al. also disclose** that the ink delivering member (58) further includes a cylindrical portion (36) which is formed adjacent to the fixing portion so as to extend therefrom in the direction away from the outer bag (Fig. 3A), the ink outlet passage being formed through the cylindrical portion (Fig. 3A), the fixing portion (Fig. 3A), and the extending portion (Fig. 3A), wherein one of opposite openings of the cylindrical portion is remote from the fixing portion, and one of opposite ends of the hollow protruding portion is remote from the fixing portion being located on a same plane (Fig. 3A).

Regarding claim 22:

Sugata as modified by Perez et al. disclose all limitations of claim 1, and **Sugata also discloses** that the ink cartridge is removably mounted on a main portion (ink reservoir unit 16) of an ink-jet recording apparatus (ink jet printer 1) which includes an ink-jet printing head (printing head 11), an ink supply passage (conduit 19) for supplying the ink delivered from the ink cartridge to the ink-jet printing head (col. 4, lines 57-65), a positive pressure generating source (air feed unit 17) for generating positively pressurized air (compressed air), and a positively pressurized air delivering passage through which the positively pressurized air generated by the positive pressure generating source is delivered (obvious to col. 5, lines 8-12), the ink cartridge being constructed to be removably mounted on the main portion such that the ink outlet passage (351a) of the ink cartridge is connected to the ink supply passage of the main portion while the communication passage (352a) of the ink cartridge is connected to the positively pressurized air delivering passage (col. 8, lines 19-33, 50-56 and Fig. 1).

Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata as modified by Perez et al., as applied to claim 1 above, and further in view of Dowell et al. (US 6508545 B2).

Regarding claim 2:

Sugata as modified by Perez et al. also disclose all the limitations of claim 1, and **Perez et al. also disclose** that the communication passage (gas inlet 26) is formed at least in a state in which the outer bag is fixed to the fixing portion (see rejection of claim 1), the fixing portion having at least one seal portion (e.g. vessel sealing surface 66) formed on an outer surface thereof that continuously extends throughout a periphery of the fixing portion (Fig. 3A).

Sugata as modified by Perez et al. do not expressly disclose that the communication passage includes a portion that extends in a direction that intersects the first direction of the fixing portion.

However, Dowell et al. disclose an ink delivering member (fluid interconnect plate 34) that has a communication passage (labyrinth 46) that includes a portion extending in a direction that intersects a first direction of a fixing portion (col. 5, lines 31-35 and Fig. 6).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a communication passage including portions that extend in different directions, such as taught by Dowell et al., into the invention of Sugata as modified by Perez et al. The motivation for doing so, as taught by Dowell et al., is to allow air outside of the cartridge to flow into the cartridge while limiting loss of water vapor (col. 5, lines 31-35).

Regarding claim 9:

Sugata as modified by Perez et al. also disclose all the limitations of claim 1, but **Sugata as modified by Perez et al. do not expressly disclose** that the communication passage is in the form of a labyrinth having at least one bent portion.

However, Dowell et al. disclose a communication (labyrinth 46) that is in the form of a labyrinth having at least one bent portion (Fig. 6).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a communication passage including portions that extend in different directions, such as taught by Dowell et al., into the invention of Sugata as modified by Perez et al. The motivation for doing so, as taught by Dowell et al., is to allow air outside of the cartridge to flow into the cartridge while limiting loss of water vapor (col. 5, lines 31-35).

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata as modified by Perez et al., as applied to claim 6 above, and further in view of Perkins et al. (US 67158853).

Regarding claim 7:

Sugata as modified by Perez et al. disclose all the limitations of claim 6, and **Perez et al. also disclose** that the fixing portion (66) has a first dimension as measured in the first direction (obvious to chassis 58), a second dimension as measured in the second direction (obvious to chassis 58), and a third dimension as measured in a third direction which is perpendicular to the first direction and the second direction (obvious to chassis 58).

Sugata as modified by Perez et al. do not expressly disclose that the third dimension is larger than the first dimension and the second dimension.

However, Perkins et al. disclose a fixing portion (fitting 18) that has a third dimension that is larger than the first and second dimensions (Fig. 2).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize the dimension of Perkins et al.'s fixing portion into the invention of Sugata as modified by Perez et al. The motivation for doing so, as taught by Perkins et al., is to provide a leak-proof seal between the bag and the fitting (col. 2, lines 36-40).

Regarding claim 8:

Sugata as modified by Perez et al. and Perkins et al. disclose all the limitations of claim 7, and **Perkins et al. also disclose** that the second dimension of the fixing portion gradually decreases toward opposite ends thereof in the third direction (Fig. 2).

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata as modified by Perez et al. and Dowell et al., as applied to claim 9 above, and further in view of Perkins et al. (US67158853).

Regarding claim 12:

Sugata as modified by Perez et al. and Dowell et al. disclose all the limitations of claim 9, but **Sugata as modified by Perez et al. and Dowell et al. do not expressly disclose** that the fixing portion includes a plurality of elongate ribs formed on the outer surface thereof and at least one groove, each of which is located between adjacent two of the plurality of elongate ribs, at least one of the plurality of elongate ribs being formed with an elongate cutout such that the elongate cutout extends in a longitudinal direction of the at least one of the plurality of elongate ribs, and with two grooves extending from longitudinal opposite ends of the elongate cutout to

one and the other of opposite side surfaces of the at least one of the plurality of elongate ribs, respectively.

However, Perkins et al. disclose that a fixing portion (fitting 18) that includes a plurality of elongate ribs (ribs 28) formed on the outer surface thereof (Fig. 2) and at least one groove (the sections between adjacent ribs 28), each of which is located between adjacent two of the plurality of ribs (Fig. 2), at least one of the plurality of elongate ribs being formed with an elongate cutout such that the elongate cutout extends in a longitudinal direction of the at least one of the plurality of elongate ribs (Fig. 2), and with two grooves extending from longitudinal opposite ends of the elongate cutout to one and the other of opposite side surfaces of the at least one of the plurality of elongate ribs, respectively (the ribs 28, and consequently the grooves, extend across the length of the fitting 18 as shown in Fig. 2).

At the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize the dimension of Perkins et al.'s fixing portion into the invention of Sugata as modified by Perez et al. and Dowell et al. One motivation for doing so, as taught by Perkins et al., is to provide a leak-proof seal between the bag and the fitting (col. 2, lines 36-40).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata as modified by Perez et al., as applied to claim 1 above, and further in view of Presnick (US 3730240).

Regarding claim 15:

Sugata as modified by Perez et al. disclose all the limitations of claim 1, but **Sugata as modified by Perez et al. do not expressly disclose** that the first space is in a state, upon shipment of the ink cartridge, in which the first space is evacuated to a reduced pressure, the

ink cartridge further comprising a sealing member which is removably provided so as to close the communication passage.

However, Presnick discloses an ink cartridge in which, upon shipment of the ink cartridge, a first space is evacuated to a reduced pressure (col. 2, lines 35-38), the ink cartridge further comprising a sealing member (stopper member 15') which is removably provided so as to close the communication passage (col. 2, lines 41-44 and Fig. 1).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to utilize a reduced pressure space, such as taught by Presnick, into the invention of Sugata as modified by Perez et al. The motivation for doing so, as taught by Presnick, is to utilize the insulating characteristics of dead air space during shipment (col. 1, lines 12-16).

Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugata (US 6874878 B2) in view of Perez et al. (US 6074050) and Presnick (US 3730240).

Regarding claim 23:

Sugata discloses an ink cartridge comprising:

an inner bag (pack 352) that is formed of a first flexible sheet (col. 5, lines 35-37);

an outer bag (pack 351) which is formed of a second flexible sheet (col. 5, lines 49-52) and which encloses the inner bag such that a first space is defined by and between the inner bag and the outer bag (Fig. 7);

an ink delivering member (pipes 351a & 352a);

a rigid casing (case 358) that encloses the outer bag and the inner bag such that a second space is defined by and between the outer bag and the rigid casing (Fig. 7), and wherein the rigid casing holds the ink delivering member (Fig. 7); and

wherein the ink delivering member further includes an ink outlet passage (pipe 351a) through which ink is delivered to an exterior of the ink cartridge (col. 8, lines 27-31 & Fig. 7).

Sugata does not expressly disclose that the first bag accommodates ink, or that the ink delivering member includes a fixing portion to which the outer bag is fixed at an opening thereof, and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof; wherein the first space is in a state, upon shipment of the ink cartridge, in which the first space is evacuated to a reduced pressure.

However, Sugata does disclose that the construction of the ink cartridge may be arbitrarily changed as long as an ink pack is arranged adjacent to an air injection pack such that the volume of the ink pack decreases when the volume of the air injection pack increases (col. 8, lines 50-56); and

Perez et al. disclose an ink delivering member (chassis 58) that includes a fixing portion (unreferenced horizontal extensions of chassis 58 shown in Fig. 3A – e.g. those extensions forming vessel sealing surface 66) and an extending portion (bag sealing surface 64) which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion (Fig. 4A) and to which the ink accommodating bag is fixed at an opening thereof (col. 4, lines 13-15 & Fig. 3A); and

Presnick discloses an ink cartridge in which, upon shipment of the ink cartridge, a first space is evacuated to a reduced pressure (col. 2, lines 35-38).

Therefore, at the time of invention, it would have been obvious to a person of ordinary skill in the art to interchange the functions of the inner and outer bags such that the inner bag acts as an ink accommodating bag in the invention of Sugata. Motivation for doing so, as

suggested by Sugata, is to provide an ink cartridge in which the ink pack is arranged adjacent to the air injection pack such that the cost of manufacturing the ink cartridge is lowered (col. 1, lines 41-65). It would have been further obvious to utilize an ink delivering member with a fixing portion to which the outer bag is fixed and an extending portion, such as suggested by Perez et al., and to utilize a reduced pressure space, such as taught by Presnick, into the invention of Sugata. One motivation for utilizing the ink delivering member, as taught by Perez et al., is to provide fluid communication between the fluid outlet and the collapsible reservoir (col. 4, lines 4-6). One motivation for utilizing a reduced pressure space, as taught by Presnick, is to utilize the insulating characteristics of dead air space during shipment (col. 1, lines 12-16).

Regarding claim 24:

Sugata as modified by Perez et al. and Presnick disclose all the limitations of claim 23, and **Sugata also discloses** that the first and second flexible sheets are made of vinyl (col. 5, lines 35-37, 49-52); and **Perez et al. also disclose** that the ink delivering member is more rigid than the ink bag (col. 4, lines 16-27 shows an O-ring placed between the pressure vessel and chassis, which requires these elements to be highly rigid materials so that the O-ring obtains a proper seal). Therefore, the combination as a whole discloses an ink delivering member that is more rigid than the first and second flexible sheets.

Allowable Subject Matter

Claims 3, 10, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Please see the Office Action dated 5/24/2007 concerning reasons for allowable subject matter.

Response to Arguments

Applicant's arguments with respect to claims 1 and 23 have been considered but are moot in view of the new ground(s) of rejection. Please see the above obviousness rejection based on the disclosures provided by Sugata, Perez et al., and Presnick. Examiner notes that, although the references are the same as those in previous Office Actions, the construction of the obvious combination has changed. As shown in the above rejections, a logical combination of these references discloses an outer bag that encloses an inner ink accommodating bag, and that a communication passage through which the first space is held is in communication with the exterior of the ink cartridge.

Examiner notes Applicant's argument that the term "arbitrarily changed" does not equate to "interchanged." In light of the above argument, certain limitations of the currently amended claims are now considered obvious rather than anticipated.

Further, in effort to advance prosecution, Examiner notes Applicant's argument that Perez et al.'s pressure vessel (62) is not an outer bag but a rigid casing, and thus a combination of Sugata as modified by Perez et al. would lead to an ink cartridge having three pipes (such as set forth in pages 8-10 of remarks filed 1/17/2008). However, such a combination is seems functionally illogical, and Examiner respectfully disagrees.

The supposed combination shown in Applicant's remarks relies heavily on the concept of retaining each references exact structure. However, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the

primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). While Perez et al. do not expressly disclose an outer bag, Perez et al. do disclose an ink bag (60) that is surrounded by a pressure vessel (62). Thus, when comparing the two references, the pressure vessel of Perez et al. functions in much the same manner as the outer bag of Sugata – to provide pressure to an inner ink bag. Therefore, a person of ordinary skill in the art would logically combine the references such that the gas inlet (26) and the ink inlet (36) of Perez et al. communicate respectively with the ink bag and the air injection bag of Sugata. Upon such a combination, the claims as a whole are shown to be obvious variants of prior art teachings.

Art Unit: 2861

Communication with the USPTO

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHELBY FIDLER whose telephone number is (571)272-8455. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Patent Examiner
AU 2861

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